

Marketing of unhealthy brands during the 2018 Fédération Internationale de Football Association (FIFA) World Cup UK broadcasts – a frequency analysis

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ABSTRACT

Sport mega-events including the FIFA World Cup are a central component of consumer culture. Major brands are long associated with the World Cup, with many known for unhealthy products. This study quantified visual marketing references to unhealthy brands in the UK broadcasting of the 2018 Men's World Cup. Eight matches were recorded, and all segments of the recordings were coded for marketing references to unhealthy brands using predefined criteria. A total of 1794 such marketing references were recorded, an average of 224 per broadcast and 1.2 per minute, 95.4% of which were official sponsors. The total time of exposure to unhealthy brand marketing was six hours, 30 minutes and 45 seconds, with 22.7% of the footage including at least one unhealthy brand marketing reference. The results show the World Cup is a platform for the marketing of unhealthy brands with implications for those responsible for public health and television broadcasters.

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Introduction

The men's World Cup is the most widely viewed and followed sporting event globally (KPMG, 2018). FIFA (2018) estimated that 3.57 billion people watched at least some of the official broadcast coverage of the 2018 World Cup in Russia; representing over half (51.3%) of the global population aged four years and above. In the UK, the main terrestrial broadcasters (BBC and ITV) generated 255 million video views and over 52 million hours of viewing (including two million unique viewers who saw the Sweden v England quarter-final on the BBC's digital platforms). Overall, the Broadcasters' Audience Research Board BARB (2019) reported the World Cup reached 53.1 million of the UK population (all individuals aged four years and over who viewed for at least three consecutive minutes). While data on the number of children represented in these viewing figures does not appear to be publicly available, typically approximately 15% of UK audiences are children (BARB, 2019).

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 Supplemental data for this article can be accessed [here](#)

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Whilst brand management in sport, and sports sponsorship, has attracted academic interest, there has been little consideration of how brands use their commercial partnerships with mega-event organisers to promote unhealthy consumption. Whilst the advertising and promotion of tobacco products in sport has largely been removed following extensive campaigning (Arnott et al., 2007) and effective national and international policies (Shibuya, 2003), sponsorship by the alcohol, gambling, fast food and sugary drinks industries remains and may even be increasing. This has raised public health concerns (Bragg et al., 2018; Carter et al., 2013; Dixon et al., 2019; Ireland et al., 2019; Kelly et al., 2010) when the leading cause of mortality in almost all countries in the world is non-communicable diseases (NCDs) (Mathers & Bonita, 2009; World Health Organisation, 2018b) with identified risk factors for NCDs being poor nutrition, physical inactivity and smoking.

This study seeks to quantify the marketing of unhealthy brands in UK broadcasts of the (FIFA, 2018) Men's World Cup football tournament. It adds to the literature concerning the commercial determinants of health in sport, illustrating how corporate marketing practices promote unhealthy consumption.

Literature review

There is a considerable literature around sport sponsorship which considers why this area of marketing has grown so considerably over the past forty years (Cornwell, 2020). Further, there are studies into the health outcomes of the marketing of food and beverages which are high in fat, salt, or sugar (HFSS). Finally, other research has explored the exposure of unhealthy brands in televised sport. Research into mega-events enables theoretical insights into the increased commodification of sport and its globalisation (Horne & Manzenreiter, 2006) and the sport, media and business alliance that has enabled this (Roche, 2006; Whannel, 2009). Bourdieu described the commercialisation of the World Cup held in France in 1998 as 'Sport visible as spectacle hides the reality of a system of actors competing over commercial stakes' (Bourdieu et al., 1999, p. 17).

Sport sponsorship and mega-events

Sport sponsorship offers more opportunities to create brand meaning and customer loyalty (Cliffe & Motion, 2005) than advertising. Theoretical frameworks assist in understanding how sport sponsorship promotes consumerism. Pracejus (2004) asserted that even without a conscious association of a sport sponsorship, consumers may transfer positive feelings about a sporting event to a sponsoring brand (the process of affect transfer). Football is an exciting and unpredictable sport providing cultural capital and evoking strong emotions providing great value to brand managers who are able to establish brand equity in building brand awareness, brand associations, perceived quality and brand loyalty through football (Manoli & Kenyon, 2019).

Social cognitive psychological models propose potential mechanisms that help to explain the marketing processes including the efficacy of marketing that draws on emotional connections and appeals (Harris et al., 2009). These models propose unconscious or automatic processes that influence consumer behaviour (Bargh 2002) and that repeated brand exposure will also increase liking of the brand (Harris et al., 2009, 2021).

There is a large body of evidence showing the association between exposure to marketing for unhealthy brands and adverse health-related outcomes, for example studies have demonstrated marketing impacts on both the antecedents of behaviour (e.g., awareness, intended consumption) and actual behaviour (use/intake) (Kelly et al., 2015) with evidence meeting the criteria for a causal relationship (Norman et al., 2016). Many studies focus on young people, for example, showing evidence of effects of food advertising exposure on children's immediate food intake as well as intermediate and long-term adverse effects on diet-related attitudes, behaviours, preferences, and health outcomes (E. Boyland et al., 2016; Buchanan et al., 2018; Dehghan, 2019; Forde et al., 2019; Kelly et al., 2015; Russell et al., 2019).

Mega-event sponsors demand exclusivity for their brands with respect to both advertising and retail sales ensuring more comprehensive exposure and higher profile (Hall, 2006). Sponsoring the World Cup enables immense brand exposure across sports venues, broadcasting and digital media (Bragg et al., 2018; Cornwell, 2020; Morgan et al., 2017; Semens, 2017) and the World Cup brand itself may enable the excitement around the tournament to be transferred to a sponsor (Bragg et al., 2018; Madrigal et al., 2005).

Bourdieu et al., 1999, p. 130) wrote of the 'continuing battles between commercial interests in sport and the anti-smoking and anti-drinking health lobby' at the World Cup held in France in 1998. Anheuser-Busch (the producer of Budweiser) lobbied the French government and the European Commission (unsuccessfully) to enable the advertising of their beer at the World Cup despite the 1991 French Evin Law banning advertisements for alcohol and tobacco at sports events. Giulianotti and Robertson (2009) conceptual analysis of football illustrates the role the sport plays in globalisation. Football's commodification and sponsorship has historically been important for transnational corporations such as Anheuser-Busch (now AB InBev) (Meenaghan, 2001) who use the World Cup to engage consumers (Karg & Lock, 2014).

Measuring the exposure of unhealthy brands in broadcast sport

To the authors' knowledge there have been few previously published studies that explore the holistic exposure of unhealthy brands (inclusive of foods and beverages, alcohol and gambling) in broadcast sport. Studies have tended to focus on one, or occasionally two, of these product categories in isolation and have often been limited in the exposure types included. For example, research into the frequency and nature of alcohol and tobacco advertising in televised sport in the US showed audiences were exposed regularly to alcohol and tobacco brands through both television commercials and stadium signage (Madden & Grube, 1994). Further studies have considered alcohol marketing in isolation in televised English club football coding all references and found extensive visual only (Adams et al., 2014) or visual and verbal references (Graham & Adams, 2014). Purves et al. (2017) used a similar approach to explore alcohol marketing at EURO2016. Outside of the UK, there is a growing literature concerning unhealthy marketing messages in sport particularly in Australia and New Zealand (Bestman et al., 2015; Carter et al., 2013; Chambers et al., 2017; Lindsay et al., 2013; Nuss et al., 2019)

To our knowledge, no academic study has considered the marketing of all unhealthy brands at a sports mega-event including all visual brand references in in-play and out-play including commercial breaks.

Methods

Design

Based on methodology used by Purves et al. (2017) and Graham and Adams (2014), a content (frequency and duration) analysis of all visual marketing references to unhealthy brands was undertaken on eight broadcasts of the FIFA World Cup 2018 tournament, as broadcast on UK television. In order to provide an illustrative overview of the level of marketing from the various commercial actors, and because of the recognition that marketing through sport typically takes a strong brand-driven approach (Dixon et al., 2019), marketing references were categorised by brand, rather than at the product level, into alcohol, gambling or food and beverages categories.

Selection of broadcasts

We coded matches broadcast by the non-commercial, public service provider BBC and the main commercial broadcaster ITV (four quarter finals, two semi-finals and two broadcasts of the final game, one from each broadcaster; TABLE 1).

The selected broadcasts were recorded in their entirety to DVD, including all pre- and post-match discussion and interviews, as well as all playing time, pundit analysis and any commercial breaks.

Defining unhealthy brand marketing references

A reference was defined as any visual reference to providers (brands) of unhealthy foods and beverages, alcohol or gambling that lasted for two seconds or longer. We considered all gambling and alcohol marketing to be inherently unhealthy. Whilst we recognise that at the product level there is more nuance for food/beverage marketing (if, for example, sugar-free products are promoted) we considered marketing for these brands to be unhealthy if their core product fell into an unhealthy category (e.g., fast food, ice cream, sugar sweetened beverages). This is consistent with evidence that advertising for healthier products from these companies does not necessarily drive healthier choice but does drive desire for that brand overall (E.J. Boyland et al., 2015) as well as potentially misleading to younger audiences (Bernhardt et al., 2014).

References were coded across all segments of the broadcast. If the camera changed shot, but the reference source remained the same this was considered the same reference. A new reference was counted if a source went out of shot for more than one second. The same appearances shown in replays were counted as new references. If more than one brand was displayed during the same camera shot, each brand was coded as a separate reference. If multiple references of the same brand appeared in the same type of location (multiple logos of the same brand on the pitch-border) they were coded as the same reference, but the number of identical references was recorded. References were only coded when they were clear and unambiguous i.e. researchers did not infer a reference from partial, blurred or obscured footage.

Table 1. Descriptive characteristics of the coded games. Length of the broadcast and times of exposure to unhealthy brand references are presented as hours, minutes and seconds (hh:mm:ss). n- Number of coded games in the stage.

Descriptive of the coded games									
Stage/Date	Teams	Date	Day of the week	Time (GMT)	Channel	Length (hh:mm:ss)	Time of exposure	Percent of the footage with exposure	Average no of exposures per minute
Quarter-Finals (n = 4)	Uruguay – France	06/07/2018	Friday	2.00pm	ITV	02:48:22	172	00:37:41	22.38%
	Brazil – Belgium	06/07/2018	Friday	6.00pm	BBC	02:56:50	233	00:55:06	31.16%
	Sweden – England	07/07/2018	Saturday	3.00pm	BBC	03:28:18	175	00:51:14	24.60%
	Russia – Croatia	07/07/2018	Saturday	6.00pm	ITV	04:11:31	272	00:57:58	23.05%
Semi-Finals (n = 2)	France – Belgium	10/07/2018	Tuesday	6.00pm	BBC	02:56:56	188	00:47:49	27.03%
	England – Croatia	11/07/2018	Wednesday	6.00pm	ITV	04:34:45	261	01:02:15	22.66%
Final (n = 2)	France – Croatia (BBC)	15/07/2018	Sunday	3.00pm	BBC	03:42:28	286	00:37:55	17.04%
	France – Croatia (ITV)	15/07/2018	Sunday	3.00pm	ITV	04:02:03	207	00:40:47	16.85%
TOTAL for all games						28:41:13	1794	06:30:45	22.70%

Codebook variables

All references were captured manually using a codebook that was adopted from those used in Purves et al. (2017) and Graham and Adams (2014). Variables coded for each reference were:

- Broadcast segment (e.g., pre-match, first half, half time).
- Location (e.g., pitch border, interview area, video segments).
- Format (e.g., static advertising, electronic advertising, spot advertisement).
- Duration of reference (in seconds)
- Number of identical reference visible at same time (e.g., across multiple pitch borders).
- Brand featured (e.g., McDonald's, Budweiser, William Hill).
- Category of the product (food/beverage, alcohol or gambling. Due to existing regulations (World Health Organisation, 2018a) we did not expect any tobacco references, but these would also have been recorded)
- Nature of brand reference (e.g., direct reference – such as brand names/logo – or indirect reference – no name/logo was present but the brand was identifiable from other signifiers such slogans, colours, and typefaces).

Full definitions for all codes are provided in Appendix A.

Procedure and inter-rater reliability

Recorded broadcasts were coded by MM (n = 5) and RI (n = 3). Recorded files were viewed on a PC using media player software. Data were coded in a Microsoft Excel spreadsheet with a separate spreadsheet used for each broadcast. To test inter-rater reliability (IRR), MM and RI both coded the same broadcast (ITV final). As there was no predefined total number of references in the game, we compared the number (and percentage) of coded references in total and per segment, location, format, brand and category of the game coded by one rater with numbers coded by the second rater (the higher number from the compared pair was treated as 100%). For example, MM coded a total of 207 references in the ITV final whilst RI coded 253 references. Agreement for the total number of references was therefore $(207 \times 100) / 253 = 81.8\%$, which is considerably above the 70% threshold for acceptable agreement for all studied variables (Stemler & Tsai, 2008). The same agreement was calculated for each variable of the codebook and the detailed results are presented in Supplementary Table 1.

Ethics

Data used were obtained through publicly available sources and therefore no ethical approval was required.

Data analysis

Data were analysed using SPSS version 24 (SPSS Inc., Chicago, IL, USA) and Microsoft Excel 2016 (Microsoft Corporation, Washington, WA, USA). Duration of each reference was calculated from the start and end times recorded. In addition, due to the overlapping of

some references (multiple brands appearing on the screen at the same time but coded as different reference entries) we calculated the intervals between references. That allowed us to calculate the total time of exposure to unhealthy brands per game and across all broadcasts, excluding overlaps. We calculated the percentage of the broadcast with unhealthy brand references by dividing the number of minutes containing references by the total time of the broadcast.

We calculated the total number of references and the average number of references per game and for each of the codebook variables. Similarly, we calculated the mean number of references per broadcast minute of broadcast across all games, for each game and for each of the codebook variables. The mean number of references per broadcast minute was computed by dividing the total number of references by the length of each broadcast, and then by dividing the number of references in-play and out-of-play by the respective length of each segment in the broadcast. The values were compared for the types of games coded based on the broadcasting channel (BBC, ITV), national focus (England, non-England), kick off time (afternoon, evening) and the day of the match (weekend, week-day).

Due to the positively skewed distribution of the duration of references and number of identical references we calculated means, medians and modes for these variables. For each of the brands, we calculated the frequencies and the mean number of identical items referring to the same brand visible at the same time.

To account for the difference in the bodies that control different elements of marketing present during the broadcast, we ran subgroup analysis for the pitch-border (controlled by FIFA) and commercial break (ITV only, controlled by the broadcaster) references separately. For each of these two locations, we calculated the frequencies of references by brands and categories. For pitch border we additionally calculated the mean number of identical references to the same brand visible at the same time.

Results

Across the entire sample (eight broadcasts, totalling 28 hours, 41 minutes and 13 seconds of coverage), a total of 1794 unhealthy brand marketing references were recorded, with an average of 224 per broadcast and 1.2 per broadcast minute. The total time of exposure to unhealthy brand marketing was six hours, 30 minutes and 45 seconds, with 22.7% of the footage including at least one unhealthy brand marketing reference (see [TABLE 1](#)). The median duration of the references was nine seconds.

Of all references to unhealthy brands, 74.8% (1318) were for food or beverage brands, 24.8% (437) were alcohol and 2.2% (39) were gambling. Gambling references only occurred in commercial breaks. A total of 95.4% of all references were of the main sponsors of the FIFA World Cup, namely McDonald's ($n = 439$, 24.9%), Budweiser ($n = 416$, 23.6%), Coca-Cola ($n = 392$, 22.2%), Mengniu¹ ($n = 305$, 17.0%) and Powerade ($n = 160$, 8.9%). See [TABLE 2](#) for details on the distribution of references across the codebook variables.

The most common reference location was the pitch border ($n = 1304$, 72.7%) with brands either sharing ($n = 1151$, 64.2%) or having exclusive use of this space ($n = 295$, 16.4%). Of the pitch border references, most were food/beverage brands

Table 2. Frequencies (n and %) of references and average number (avg. no) of exposures per game presented for each category of the variables of the codebooks.

N = 1794		No of games	n	%	Avg. no of exposures across all games
Segment	1st half	8	510	28.9	64
	2nd half	8	499	28.3	62
	Commercial break	4	84	4.8	11
	Half-time	8	80	4.5	10
	Post-match	8	190	10.8	24
	Pre-match	8	324	18.4	41
	Extra time	2	84	4.8	42
	Break in extra time	2	11	0.6	6
	Penalties	1	12	0.7	12
Channel	BBC	4	882	49.2	221
	ITV	4	912	50.8	228
Location	Commercial break ad	4	84	4.7	21
	Field of play	8	59	3.3	7
	Interview area	8	105	5.9	13
	Other (specify in notes)	8	8	0.4	1
	Pitch border	8	1304	72.7	163
	Sponsorship lead in/out	4	45	2.5	11
	Stadium Interior	8	18	1.0	2
	Video segment	8	171	9.5	21
Format	Commercial spot ad	4	86	4.8	22
	Electronic advertising (all)	8	295	16.4	37
	Electronic advertising (part)	8	1151	64.2	144
	Other (specify in notes)	8	57	3.2	7
	Product or Packaging	8	40	2.2	5
	Sponsorship lead in	4	43	2.4	11
	Static advertising	8	122	6.8	15
Category	Alcohol	8	437	24.4	55
	Food/beverage	8	1318	73.5	165
	Gambling	4	39	2.2	10
Brand	McDonald's	8	439	24.5	55
	Budweiser	8	416	23.2	52
	Coca-Cola	8	392	21.9	49
	Mengniu	8	305	17.0	38
	Powerade	8	160	8.9	20
	Others	8	82	4.6	10
Type of reference	Direct	8	1730	96.4	216
	Indirect	8	64	3.6	8
In play	In play	8	1105	61.6	138
	Out of play	8	689	38.4	86
National focus	England Game	2	404	22.5	202
	non-England game	6	1358	75.7	226
Kick off	Afternoon	4	796	44.4	199.0
	Evening	4	998	55.6	249.5
Day of match	Weekday (Monday–Thursday)	4	854	47.6	213.5
	Weekend (Friday–Sunday)	4	940	52.4	235.0
Kick off	Afternoon	4	840	46.8	210
	Evening	4	922	51.4	231
Day of match	Weekday (Monday–Thursday)	4	822	45.8	206
	Weekend (Friday–Sunday)	4	940	52.4	235

(1000, 76.7%). Alcohol accounted for 23.3% (304) of all pitch border references, but no gambling marketing references were present here. In order of frequency of references the main pitch side brands were McDonald's (n = 326, 25.0%), Budweiser (n = 304, 23.3%), Coca-Cola (n = 295, 22.6%), Mengniu (n = 259, 19.9%) and Powerade (n = 120, 9.2%).

Table 3. Average number of identical exposures in one entry.

Brand	All locations (N = 1794)		Pitch border only (n = 1304)	
	N	Mean (SD)	N (%)	Mean (SD)
McDonald's	432	6.1 (3.7)	326 (25.0)	5.9 (3)
Coca-Cola	385	5.3 (3.6)	295 (22.6)	5.6 (3.7)
Mengniu	301	4.2 (2.0)	259 (19.9)	4.1 (2)
Powerade	159	3.5 (1.7)	120 (9.2)	4 (1.6)
Budweiser	406	3.4 (1.8)	304 (23.3)	3.7 (1.9)
Other	82	2.2(2.3)	0 (0.0)	NA

Table 4. Average numbers of exposures and average numbers (no) of exposures per minute of broadcast presented per segment, in- and out of play segments and types of games. Results presented as means, standard deviations (SD) and standard errors of means (SE).

Variable	N = 1794	No of games	no of exposures		no of exposures per minute	
			Mean (SD)	SE	Mean (SD)	SE
Segment	Pre-match	8	40.5 (12.3)	4.4	0.9 (0.3)	0.1
	1st half	8	63.8 (12.9)	4.6	1.4 (0.3)	0.1
	half-time	8	10 (7.3)	2.6	0.7 (0.4)	0.2
	commercial break	4	21 (8.1)	4.1	1.4 (0.1)	0.1
	2nd half	8	62.4 (12.9)	4.5	1.3 (0.3)	0.1
	post-match	8	23.8 (10.4)	3.7	0.6 (0.3)	0.1
	extra time	2	42 (8.5)	6.0	1.1 (0.1)	0.0
	break in extra time	2	5.5 (4.9)	3.5	0.7 (0.4)	0.3
	penalties	1	12 (NA)	NA	NA	NA
Channel	BBC	4	220.5 (50.2)	25.1	1.1 (0.2)	0.1
	ITV	4	227.8 (46.6)	23.3	1.0 (0.1)	0.1
In play	In play	8	58.2 (17.4)	4.0	1.4 (0.4)	0.1
	Out of play	8	23.0 (15.4)	2.8	0.8 (0.4)	0.1
National focus	England Game	2	218 (60.8)	43.0	0.9 (0)	0.0
	non-England game	6	226.2 (45.6)	18.6	1.1 (0.2)	0.1
Kick off	Afternoon	4	199 (41.9)	21.0	1.0 (0.1)	0.1
	Evening	4	249.3 (35.9)	18.0	1.1 (0.2)	0.1
Day of match	Weekday (Monday–Thursday)	4	213.5 (40.9)	20.4	1.1 (0.2)	0.1
	Weekend (Friday–Sunday)	4	234.8 (52.5)	26.3	1.0 (0.2)	0.1

Of the 84 unhealthy marketing references in commercial breaks (accounting for less than 5% of total references in this study), gambling was the most frequent unhealthy brand category ($n = 38$, 45.2%). Food/beverages and alcohol accounted for 26.2% ($n = 22$) and 28.6% ($n = 24$) of these references respectively.

The number of identical references (of the same brand) on the screen varied between one and 22, with an average (mode and median) of four. McDonald's and Coca-Cola had the most identical references in one entry with 6.1 ($SD = 3.7$) and 5.3 ($SD = 3.6$) per exposure respectively (see [TABLE 3](#)).

References appeared more frequently during in-play than out of play segments (1.4 vs 0.8 references per minute). There was no difference in the average number or frequency of references per game between broadcasters. References were the most frequent during penalties (2.5 ref/min) followed by the commercial break (1.5 ref/min). They were least frequent during the out of play segments such as pre- and post-match (0.9 ref/min and 0.6 ref/min), half time (0.7 ref/min) and break in extra time (0.8 ref/min). See [TABLE 4](#).

Discussion

This study examined the exposure of unhealthy brands at the 2018 World Cup to enable increased understanding of the globalisation and commodification of sport. It adds to the literature around how corporate practices in sport may be detrimental to population health. The World Cup enjoys huge television coverage with the valuable broadcasting rights and commercial sponsorship providing a considerable income to FIFA (Solberg & Gratton, 2014). The marketing of unhealthy brands during the 2018 FIFA Men's World Cup was frequent and extensive, with almost a quarter of the footage including one or more reference. The most common location of marketing references was the pitch-border advertisement boards. A viewer watching these matches would have been exposed to marketing of an unhealthy brand on average 1.2 times per minute with an average of 224 exposures per game. Following Bourdieu (1986), it is clear that the economic capital of transnational corporations uses the rich cultural capital and global appeal of the World Cup to market unhealthy commodities (Ireland et al., 2021).

There were two main avenues of promotion for brands during the broadcast. The in-game marketing (mainly of the official sponsors of the event and falling within the regulatory powers of FIFA) and the marketing during the out-of-game segments, regulated at the national level by the broadcasters. As a result, during the football matches themselves, food, beverage and alcohol marketing was highly visible on both channels while the commercial breaks (ITV only) were dominated by gambling brands. While both in-game and commercial break advertising present clear concerns for public health, in-game adverts make up the majority of exposures. Given that 95.4% of all exposures were to official sponsors of the World Cup, FIFA's commercial partnerships can be considered the most significant driver of these exposures. It is clear from these data that the World Cup, as with other sport mega-events like the Olympics (Roche, 2006), is a widely used vehicle for the propagation of brand imagery and messaging for some of the biggest global alcohol, food/beverage and gambling brands.

The previous UK studies which considered alcohol marketing in isolation in televised football, found extensive visual only (Adams et al., 2014) or visual and verbal references (Graham & Adams, 2014; Purves et al., 2017). Consistent with the findings of the current study, all three found the most marketing references to be at the pitch border of the playing field where sponsors' brands were displayed electronically.

Whilst it is difficult to be precise about how many young people watch sport, we know it is very popular. For example an Ofcom report (Ofcom, 2017) found that 38% of children aged 12 to 15 in the UK are interested in sport, after music and celebrities. Thus, if we take into account the potential public health issues arising from consumption and use of the unhealthy brands we assessed, the findings are deeply concerning. Further, emerging evidence suggests sport sponsorship and marketing has an adverse effect on children's consumption, preferences and attitudes including a normalisation of the association of sports with unhealthy behaviours (Bragg et al., 2018; Dixon et al., 2019; Djohari et al., 2019; Kelly et al., 2011; Nuss et al., 2019).

We argue that the promotion of unhealthy brands at the World Cup is detrimental to population health and in direct contradiction to any aspirations of corporate social responsibility. Football has a global audience with an exceptional impact on economies, society and the media. Given that emotionally-driven marketing and sponsorship has been found to be the most effective (Meenaghan & O'Sullivan, 2001), a financially driven partnership of alcohol and fast food and sugar sweetened beverage brands with the World Cup, and its ability to engage with the *passion points* of football fans together with the frequent broadcaster's marketing of gambling is likely to have resulted in a highly effective promotion of unhealthy brands to a huge audience. The repeated exposure of brands such as McDonald's, Budweiser, Powerade and Coca-Cola on digital displays on pitch perimeters are likely to make brand associations which both influence consumer behaviour and increase the liking of these brands. We can conclude that the sponsorship of the 2018 FIFA World Cup by unhealthy commodity industries is also likely to create favourable impressions of their brands and to increase consumption of their products.

Chambers and Sassi (2019) argue for more comprehensive regulation in sport sponsorship which covers all unhealthy sponsorship rather than product by product. Certainly, policy makers should turn their eyes to sport and, football – the world's most popular sport – in particular, as continuing to allow the marketing that has been described in this paper undermines existing policies designed to protect children and their health. Further, the World Health Organisation's collaboration with FIFA to 'promote healthy lifestyles through football globally' (World Health Organisation, 2019) should be reconsidered whilst FIFA allows the World Cup to be a vehicle to promote unhealthy consumption. The commodification of elite sport, as at the World Cup, demands ethical attention (Walsh & Giulianotti, 2001) when the scale of the marketing of unhealthy brands is as high as described in this study. It raises regulatory issues for national governments in dealing with the complex management and delivery of sports mega-events especially where these are the responsibility of supranational organisations such as FIFA.

Limitations

This study had many strengths but also some limitations. Our estimates represent potential viewer exposure to unhealthy brand marketing references, and not actual exposure or any effect on the viewer. Elements such as location and size of the reference, and previous familiarity with the brand among others could moderate the impact on behaviour. The coding was done manually by researchers and therefore there is potential for subjectivity and bias. Future studies should explore the potential of automated methods to identify and capture visual references to unhealthy branding. Because an average viewer is not likely to pay close or conscious attention to marketing specifically, we sought to avoid overestimation of the exposure. For example, we only included exposures of two seconds or more and did not include partial, blurred or obscured references. While some of these limitations may have affected the number of references we identified, they do not change the meaning and importance of these findings, as there

is no known safe and acceptable level of exposure to unhealthy marketing. The numbers presented here are only intended to be descriptive, to highlight the scale of the problem, not to be an exhaustive account.

The study benefitted from a pre-defined codebook used in previous published work. We discussed and resolved coding queries, and where necessary, sought the advice and guidance of other researchers in the field. We cross-checked our findings and reported on coding consistency. Having considered all the matches from the quarter-finals onwards in the World Cup, we are satisfied that our sample size is appropriate to demonstrate the results shown.

Research recommendations

Given the limited studies concerning sport sponsorship and unhealthy brands, there are considerable opportunities for future research. The influence of transnational companies in promoting their corporate brands at mega-events and disregarding national regulations requires more consideration if appropriate governance mechanisms are to be proposed.

As we understand that sponsors seek to engage with fan-consumers using the cultural capital of sport to develop brand image as well as increase consumption, more studies are required to understand how effective this engagement is. This should include quantifying the impact of exposure to unhealthy brand marketing through sports on children's attitudes and behaviours.

There are also some practical research recommendations in developing methods in the measurement of brand images in broadcasting.

This study has considered the men's FIFA World Cup. As well as the study of brand management and sponsorship at mega-events, there are many other opportunities in considering the marketing of unhealthy commodities in both women's and men's sport, amateur and professional, and of course within junior sport where public health concerns may be even higher.

Conclusions

This study is the first research to examine unhealthy brand marketing at a mega-event. It highlights the significant role the World Cup plays in providing a global market and illustrates how the cultural capital of sport, including the opportunities it provides for celebration and passion, makes it an ideal vehicle for transnational corporations. The study has demonstrated that UK viewers of the 2018 FIFA Men's World Cup were exposed to a vast amount of marketing for unhealthy brands – 1.2 per broadcast minute – highlighting the central role of sport in global brand promotion. During match footage, exposure was dominated by references to unhealthy foods and drinks, alongside alcohol, 95.4% of which were official sponsors. During commercial breaks, gambling brands dominated. In the context of the challenges to global public health presented by widespread obesity, growth in non-communicable diseases and rising rates of poor mental health, regulators and policy makers should consider the impact that marketing in broadcasts of major sporting events might be having on these outcomes. Football authorities, such as FIFA, and television broadcasters also have an important role to play, and should

consider the negative social value that the promotion of unhealthy brands may have on the population's health and wellbeing, and not just the financial value of the advertising it is able to sell.

Notes

1. The Mengniu Dairy company is a Chinese manufacturing and distribution company of dairy products and ice-cream.

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Data availability statement

The data set supporting this research is available on request from the corresponding author.

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